

What is claimed is:

1. A method for identifying a polynucleotide sequence and its expression level, wherein the polynucleotide corresponds to an endoplasmic reticulum-associated polypeptide, comprising the steps of:
  - (a) obtaining a polynucleotide from a cellular homogenate, wherein the polynucleotide encodes the polypeptide; and
  - (b) determining the sequence of the nucleic acid and its expression level.
- 10 2. The method of claim 1, wherein the nucleic acid of step (a) is isolated by isopycnic centrifugation and isolation of the microsomal fraction.
- 15 3. The method of claim 1, wherein step (b) comprises identification of the sequence and its expression level by serial analysis gene expression.
4. The polynucleotide identified by the method of claim 1.
5. A probe comprising at least four contiguous nucleotides of the polynucleotide of claim 4.
- 20 6. A coding sequence comprising the polynucleotide of claim 4.
7. A gene comprising the coding sequence of claim 6.
- 25 8. A fragment of the coding sequence of claim 6.
9. A fragment of the gene of claim 7.
10. A gene delivery vehicle comprising the polynucleotide of claim 4.
- 30 11. A gene delivery vehicle comprising the coding sequence of claim 6.

12. A gene delivery vehicle comprising the gene of claim 8.

13. A host cell comprising the polynucleotide of claim 4.

5 14. A host cell comprising exogenous added coding sequence of claim 6.

15. A host cell comprising exogenously added gene of claim 8.

10 16. A composition comprising the polynucleotide of claim 4 and a carrier.

17. A composition comprising host cell comprising the coding sequence of claim 6 and a carrier.

18. A composition comprising the gene of claim 8 and a carrier.

15 19. An isolated polypeptide encoded by the coding sequence of claim 6.

20 20. An isolated polypeptide encoded by the gene of claim 8.

21. An antibody that specifically recognizes and binds to the polypeptide of claim 19.

22. An antibody that specifically recognizes and binds to the polypeptide of claim 20.

25 23. A polynucleotide of claim 4 attached to a chip array.

24. A computer readable medium having encoded thereon the sequence of the polynucleotide of claim 4.

30 25. A computer readable medium having encoded thereon the coding sequence of the polynucleotide of claim 6.

26. A computer readable medium having encoded thereon the sequence of the gene of claim 8.

5 27. A method for identifying a polynucleotide coding for a polypeptide associated with the endoplasmic reticulum in a cell, comprising contacting a polynucleotide of claim 4 with nucleic acids isolated from the cell under conditions suitable for amplification and isolation of any nucleic acids complementary to the polynucleotide of claim 4, thereby identifying a polynucleotide coding for a polypeptide 10 associated with the endoplasmic reticulum.

15 28. A method for identifying a polynucleotide coding for a polypeptide associated with the endoplasmic reticulum in a cell, comprising contacting a polynucleotide of claim 4 with nucleic acids isolated from the cell under conditions suitable for hybridization of complementary sequences and identifying complementary pairs, thereby identifying a polynucleotide coding for a polypeptide associated with the 20 endoplasmic reticulum.

25 29. A method for identifying a polypeptide associated with the endoplasmic reticulum in a cell, comprising contacting polynucleotides isolated from the cell or tissue containing the cell with the antibody of claim 21 or 22 under conditions such that an antibody-polypeptide complex is formed, and identifying any complex formed, thereby 30 identifying a polypeptide associated with the endoplasmic reticulum.

30. 30. A method for analyzing the effect of an agent on the expression of at least one gene encoding a polypeptide associate with the endoplasmic reticulum in a cell, comprising the steps of:

- (a) contacting the agent with the cell and performing the method of claim 1 on the cell after to exposure to the agent; and
- (b) comparing the polynucleotides identified in step (a) with polynucleotides identified in a control, thereby analyzing the effect of an agent on the

expression of at least one gene encoding a polypeptide associate with the endoplasmic reticulum in a cell.

31. A method for identifying a polynucleotide encoding a non-cytoplasmic  
5 protein comprising searching a database for the occurrence of a polynucleotide of claim  
4.

32. A method of analyzing an expressed gene in a cell comprising comparing  
a sequence of a nucleic acid isolated from the cell with a sequence stored on the  
10 computer readable medium of claim 25 or 26.